

Glass Passivated Super Fast Rectifiers

FEATURES

- Glass passivated chip junction
- High efficiency, Low VF
- High current capability
- High surge current capability
- Low power loss
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



DO-204AC (DO-15)

MECHANICAL DATA

Case: DO-204AC (DO-15)

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - green compound (halogen-free)

Base P/N with prefix "H" on packing code - AEC-Q101 qualified

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

with prefix "H" on packing code meet JESD 201 class 2 whisker test

Weight: 0.4g (approximately)

| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted) | | | | | | | | | | |
|--|--------------------------------------|--------------|--------|--------|--------|--------|--------|--------|--------|------|
| PARAMETER | SYMBOL | SF 21G | SF 22G | SF 23G | SF 24G | SF 25G | SF 26G | SF 27G | SF 28G | UNIT |
| Maximum repetitive peak reverse voltage | V _{RRM} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum RMS voltage | V _{RMS} | 35 | 70 | 105 | 140 | 210 | 280 | 350 | 420 | V |
| Maximum DC blocking voltage | V _{DC} | 50 | 100 | 150 | 200 | 300 | 400 | 500 | 600 | V |
| Maximum average forward rectified current | I _{F(AV)} | 2 | | | | | | | | A |
| Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load | I _{FSM} | 50 | | | | | | | | A |
| Maximum instantaneous forward voltage (Note 1) @ 2 A | V _F | 0.95 | | | 1.3 | | 1.7 | | | V |
| Maximum reverse current @ rated VR T _J =25 °C T _J =125 °C | I _R | 5 | | | | 100 | | | | μA |
| Maximum reverse recovery time (Note 2) | T _{rr} | 35 | | | | | | | | ns |
| Typical junction capacitance (Note 3) | C _j | 40 | | | | 20 | | | | pF |
| Typical thermal resistance | R _{θJC} R _{θJA} | 16 | | | | 65 | | | | °C/W |
| Operating junction temperature range | T _J | - 55 to +150 | | | | | | | | °C |
| Storage temperature range | T _{STG} | - 55 to +150 | | | | | | | | °C |

Note 1: Pulse test with PW=300 μs, 1% duty cycle

Note 2: Reverse Recovery Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

| ORDERING INFORMATION | | | | | |
|----------------------|--------------------|--------------|---------------------|---------|------------------------|
| PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | PACKAGE | PACKING |
| SF2xG (Note 1) | Prefix "H" | A0 | Suffix "G" | DO-15 | 1,500 / Ammo box |
| | | R0 | | DO-15 | 3,500 / 13" Paper reel |
| | | B0 | | DO-15 | 1,000 / Bulk packing |

Note 1: "x" defines voltage from 50V (SF21G) to 600V (SF28G)

| EXAMPLE | | | | | |
|---------------|----------|--------------------|--------------|---------------------|--------------------|
| PREFERRED P/N | PART NO. | AEC-Q101 QUALIFIED | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION |
| SF21G A0 | SF21G | | A0 | | |
| SF21G A0G | SF21G | | A0 | G | Green compound |
| SF21GHA0 | SF21G | H | A0 | | AEC-Q101 qualified |

RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG. 1- MAXIMUM AVERAGE FORWARD CURRENT DERATING



FIG. 2- TYPICAL REVERSE CHARACTERISTICS



FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



FIG. 4 TYPICAL FORWARD CHARACTERISTICS



FIG. 4- TYPICAL JUNCTION CAPACITANCE



FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM



PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) | | Unit (inch) | |
|------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 2.60 | 3.60 | 0.102 | 0.142 |
| B | 0.70 | 0.90 | 0.028 | 0.035 |
| C | 25.40 | - | 1.000 | - |
| D | 5.80 | 7.60 | 0.228 | 0.299 |
| E | 25.40 | - | 1.000 | - |

MARKING DIAGRAM



P/N = Specific Device Code
G = Green Compound
YWW = Date Code
F = Factory Code

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